We claim:

1. A method for manufacturing a hard capsule shell comprising:

adding a capsule forming composition to a mold having at least an opening shaped as a capsule cap or a capsule body; wherein said capsule forming composition comprises a polymer; wherein said polymer is not gelatin;

heating said mold and a capsule forming pestle having a diameter smaller than said mold opening to a temperature above a melting temperature of said capsule forming composition;

inserting said heated capsule forming pestle into said opening of said heated mold with pressure to contact said capsule forming composition;

withdrawing said heated pestle from said heated mold; wherein said capsule forming composition is melted and coated onto said heated pestle;

cooling and drying said capsule forming composition on said pestle; and

removing said dried capsule forming composition from said pestle.

2. The method according to claim 1, wherein said mold and said capsule forming pestle are made of stainless steel.

3. The method according to claim 1, wherein said polymer is a cellulose or cellulose derivative.

4. The method according to claim 3, wherein said cellulose or its derivative is at least one selected from the group consisting of cellulose, cellulose ester, cellulose

ether, cellulose nitrate, cellulose triacetate, cellulose acetate phthate, methyl cellulose, ethyl cellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, and hydroxypropyl methylcellulose phthalate.

5. The method according to claim 1, wherein said polymer is polymer or copolymer of acrylate or acrylate derivative.

6. The method according to claim 5, wherein said polymer or copolymer of acrylate or acrylate derivative is at least one selected from the group consisting of polyacrylate, polymethylacrylate, poly(acrylate-methylacrylate), poly(methacrylate-methylmethacrylate), poly(ethylacrylate-methylmethacrylate), poly(ethylacrylate-methylmethacrylate-trimethylammonioethylmethacrylate chloride), and poly(ethylacrylate-methylmethacrylate-trimethylammonioethylmethacrylate chloride).

7. The method according to claim 1, wherein said polymer is polyolefin which is one selected from the group consisting of polyethylene, polypropylene, and polybutylene.

8. The method according to claim 1, wherein said polymer is vinyl polymer which is at least one selected from the group consisting of polyvinyl chloride, polyvinyl acetate, polyvinyl alcohol, polystyrene and polyacrylonitrile.

9. The method according to claim 1, wherein said polymer is poly (2-ethyl-2-oxazoline) or aginate.

10. The method according to claim 1, wherein said polymer is mixed with a plasticizer.

11. The method according to claim 10, wherein said plasticizer is at least one selected from the group consisting of glycerine, propylene glycol, polyethylene glycol (PEG 200-6000), diethyl phthalate, dibutyl phthalte, dibutyl sebacate, triethyl citrate, acetyltriethyl citrate, acetyltributyl citrate, tributyl citrate, triacetyl glycerine, castor oil, acetylated monoglyceride, and coconut oil.

12. A hard capsule shell preparation comprising:

a capsule forming composition comprising a polymer and a plasticizer;

wherein said polymer is not gelatin; wherein said capsule forming composition does not contain a solvent;

wherein said plasticizer constitutes about 0%-40% by weight of said capsule forming composition.

13. The hard capsule shell according to claim 12, wherein said capsule shell is made by adding said capsule forming composition to a mold having at least an opening shaped as a capsule cap or a capsule body; heating said mold and a capsule forming pestle having a diameter smaller than said mold opening to a temperature above a melting

temperature of said capsule forming composition; inserting said heated capsule forming pestle into said opening of said heated mold with pressure to contact said capsule forming composition; withdrawing said heated pestle from said heated mold to coat said melted capsule forming composition onto said heated pestle; cooling and drying said capsule forming composition on said pestle; and removing said dried capsule forming composition from said pestle.

14. The hard capsule shell according to claim 12, wherein said polymer is a cellulose or cellulose derivative which is at least one selected from the group consisting of cellulose, cellulose ester, cellulose ether, cellulose nitrate, cellulose triacetate, cellulose acetate phthate, methyl cellulose, ethyl cellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, and hydroxypropyl methylcellulose phthalate.

15. The hard capsule shell according to claim 1, wherein said polymer is a polymer or copolymer of acrylate or acrylate derivative which is at least one selected from the group consisting of polyacrylate, polymethylacrylate, poly(acrylate-methylacrylate), poly(methacrylate- methylmethacrylate), poly(ethylacrylate-methylmethacrylate), poly(ethylacrylate-methylmethacrylate-trimethylammonioethylmethacrylate chloride), and poly(ethylacrylate-methylmethacrylate-trimethylammonioethylmethacrylate chloride).

16. The hard capsule shell according to claim 12, wherein said polymer is polyolefin which is one selected from the group consisting of polyethylene, polypropylene, and polybutylene.

17. The hard capsule shell according to claim 12, wherein said polymer is a vinyl polymer which is at least one selected from the group consisting of polyvinyl chloride, polyvinyl acetate, polyvinyl alcohol, polystyrene and polyacrylonitrile.

18. The hard capsule shell according to claim 12, wherein said polymer is poly (2-ethyl-2-oxazoline) or aginate.

19. The hard capsule shell according to claim 12, wherein said plasticizer is at least one selected from the group consisting of glycerine, propylene glycol, polyethylene glycol (PEG 200-6000), diethyl phthalate, dibutyl phthalte, dibutyl sebacate, triethyl citrate, acetyltriethyl citrate, acetyltributyl citrate, tributyl citrate, triacetyl glycerine, castor oil, acetylated monoglyceride, and coconut oil.

20. The hard capsule shell according to claim 12, wherein said plasticizer constitutes about 0.01%-20% by weight of the capsule composition.

21. An apparatus for making a hard capsule shell comprising:

a mold having at least an opening shaped as a capsule cap or a capsule body; said mold being capable of receiving a capsule forming composition; and

a capsule forming pestle having a diameter smaller than said mold opening; said capsule forming pestle being fittedly engage in said mold; whereby said capsule forming pestle is inserted into and withdrawn from said mold after said capsule forming composition is added to said mold and both said mold and said capsule forming pestle are heated to above a melting temperature of said capsule forming composition.

22. The apparatus according to claim 21, wherein said mold and said capsule forming pestle are made of stainless steel.

23. The apparatus according to claim 21, further comprising a kiln for hardening and drying said capsule forming composition on said capsule forming pestle.

24. The apparatus according to claim 21, further comprising a device to facilitate insertion or withdrawal of said capsule conforming pestle to and from said mold.